Pergamon

Cement and Concrete Research, Vol. 27, No. 12, pp. 1931–1948, 1997
Copyright © 1997 Elsevier Science Ltd
Printed in the USA. All rights reserved
0008-8846/97 $17.00 + .00

INDEX TO VOLUME 27

1997 Volume 27, Number 1 January

COMMUNICATED PAPERS

J. Pera, L. Coutaz, J. Ambroise and M. Chabannet: Incinerator Bottom Ash, NaOH Treatment, Concrete 1

G. Li, P. Le Bascop and M. Moranville-Regourd: Synthesis of the U-Phase ($4CaO.0.9Al_2O_3.1.1SO_3.0.5Na_2O.16H_2O$) 7

İlker Bekir Topçu: Semi Lightweight Concretes Produced by Volcanic Slags 15

J.J. Beaudoin, P. Gu and R.E. Myers: Flexural Strength of Cement Paste Composites Containing Micron and Sub-Micron Nickel Particulates 23

REFEREED PAPERS

M. Kawamura and S. Komatsu: Behavior of Various Ions in Pore Solution in NaCl-Bearing Mortar With and Without Reactive Aggregate at Early Ages 29

H. Uchikawa, S. Hanehara and D. Sawaki: The Role of Steric Repulsive Force in the Dispersion of Cement Particles in Fresh Paste Prepared with Organic Admixture 37

W. Kurdowski, S. Duszak and B. Trybalska: Belite Produced by Means of Low-Temperature Synthesis 51

S. Maximilien, J. Péra and M. Chabannet: Study of the Reactivity of Clinkers By Means of the Conductometric Test 63

Y. Xi, D.D. Siemer and B.E. Scheetz: Strength Development, Hydration Reaction and Pore Structure of Autoclaved Slag Cement with Added Silica Fume 75

W. Nocuń-Wczelik: Effect of Some Inorganic Admixtures on the Formation and Properties of Calcium Silicate Hydrates Produced in Hydrothermal Conditions 83

Md. A.I. Laskar, R. Kumar and B. Bhattacharjee: Some Aspects of Evaluation of Concrete Through Mercury Intrusion Porosimetry 93

Q. Jin, W. Liu, and L. Tong: Investigations on Concrete Railway Ties Suffering From Alkali-Silica Reaction 107

B. Zhang and K. Wu: Residual Fatigue Strength and Stiffness of Ordinary Concrete Under Bending 115

M. Drábik, L. Gáliková, G.B. Hix, A.G. Pearce, R.C.T. Slade and K.E. Young: Model MDFs Related to Sulfobelitic Systems: Studies by ^{57}Fe Mössbauer and Electrical Impedance Techniques 127

S. Wild and J.M. Khatib: Portlandite Consumption in Metakaolin Cement Pastes and Mortars 137

N.J. Coleman and C.L. Page: Aspects of the Pore Solution Chemistry of Hydrated Cement Pastes Containing Metakaolin 147

DISCUSSIONS 155

NEWS ITEMS 161

1997 Volume 27, Number 2 February

COMMUNICATED PAPERS

T. Özturan and C. Çeçen: Effect of Coarse Aggregate Type on Mechanical Properties of Concretes with Different Strengths 165

J.-H. Kim and R.E. Robertson: Prevention of Air Void Formation in Polymer-Modified Cement Mortar By Pre-Wetting 171

İ.B. Topçu: Assessment of the Brittleness Index of Rubberized Concretes 177

REFEREED PAPERS

O. Stráněl and T. Sebök: Relationships Between the Properties of Ligninsulphonates and Parameters of Modified Samples with Cement Binders Part I. Characterizing Ligninsulphonates and Studying their Sorption Properties 185

R.L. Hill, S.L. Sarkar, R.F. Rathbone and J.C. Hower: An Examination of Fly Ash Carbon and Its Interactions with Air Entraining Agent 193

F. Türker, F. Aköz, S. Koral and N. Yüzer: Effects of Magnesium Sulfate Concentration on the Sulfate Resistance of Mortars With and Without Silica Fume .. 205

A. Macias, A. Kindness and F.P. Glasser: Impact of Carbon Dioxide on the Immobilization Potential of Cemented Wastes: Chromium 215

A. Güleç and T. Tulun: Physico-Chemical and Petrographical Studies of Old Mortars and Plasters of Anatolia 227

J.S. Lumley: ASR Suppression by Lithium Compounds 235

C. Hua, A. Ehrlacher and P. Acker: Analyses and Models of the Autogenous Shrinkage of Hardening Cement Paste II. Modelling at Scale of Hydrating Grains ... 245

M.E. Gaze: The Effects of Varying Gypsum Content on Thaumasite Formation in a Cement:Lime:Sand Mortar at 5°C 259

R.Z. Al-Zaid, F.H. Al-Sugair and A.I. Al-Negheimish: Investigation of Potential Uses of Electric-Arc Furnace Dust (EAFD) in Concrete 267

N.Q. Feng, S.Y.N. Chan, Z.S. He and M.K.C. Tsang: Shale Ash Concrete 279

X. Lu: Application of the Nernst-Einstein Equation to Concrete 293

A.B. Kudryavtsev and T.V. Kouznetsova: Hydration Kinetics of Modified Calcium Sulphoaluminate Oxides Studied by Aluminum-27 NMR Spectroscopy and Proton Magnetic Relaxation: Experimental Data 303

NEWS ITEMS 311

1997 Volume 27, Number 3 March

COMMUNICATED PAPERS

G. Qian, G. Xu, H. Li and A. Li: Mg-Xonotlite and its Coexisting Phases 315

L. Tong, M. Deng, X. Lan and M. Tang: A Case Study of Two Airport Runways Affected by Alkali-Carbonate Reaction Part One: Evidence of Deterioration and Evaluation of Aggregates 321

L. Tong and M. Tang: A Case Study of Two Airport Runways Affected by Alkali-Carbonate Reaction Part Two: Microstructural Investigations 329

J.M. Díez, J. Madrid and A. Macaís: Characterization of Cement-Stabilized Cd Wastes 337

REFEREED PAPERS

M. Mouret, A. Bascoul and G. Escadeillis: Drops in Concrete Strength in Summer Related to the Aggregate Temperature 345
A. Fernández-Jiménez and F. Puertas: Alkali-Activated Slag Cements: Kinetic Studies 359
B. Samet and S.L. Sarkar: The Influence of Calcium Sulfate Form on the Initial Hydration of Clinkers Containing Different Alkali Combinations 369
K. Wang, D.C. Jansen, S.P. Shah and A.F. Karr: Permeability Study of Cracked Concrete 381
W.-H. Huang: Properties of Cement-Fly Ash Grout Admixed with Bentonite, Silica Fume, or Organic Fiber 395
X. Feng and N. Yang: Variations of the Anions Polymerization Degree of CaO-SiO_2-P_2O_5-H_2O CBC Materials During Hydration 407
F. Vodák, R. Černý, J. Drchalová, Š. Hošková, O. Kapičková, O. Michalko, P. Semerák and J. Toman: Thermophysical Properties of Concrete for Nuclear-Safety Related Structures 415
T. Pheeraphan and C.K.Y. Leung: Freeze-Thaw Durability of Microwave Cured Air-Entrained Concrete 427
M. Zhu, R.C. Wetherhold and D.D.L. Chung: Evaluation of the Interfacial Shear in a Discontinous Carbon Fiber/Mortar Matrix Composite 437
E. Ballatore and P. Bocca: Variations in the Mechanical Properties of Concrete Subjected to Low Cyclic Loads 453
C.K.Y. Leung and T. Pheeraphan: Determination of Optimal Process for Microwave Curing of Concrete 463

LETTER TO THE EDITOR 473

NEWS ITEMS 475

1997 Volume 27, Number 4 April

COMMUNICATED PAPERS

J.M. Díez, J. Madrid and A. Macías: Characterization of Cement-Stabilized Cd Wastes 479
D. Wang and Z. Chen: On Predicting Compressive Strengths of Mortars with Ternary Blends of Cement, GGBFS and Fly Ash 493
E.J. Garboczi: Stress, Displacement, and Expansive Cracking Around a Single Spherical Aggregate Under Different Expansive Conditions 495

REFEREED PAPERS

A.B. Kudryavtsev, T.V. Kouznetsova, W. Linert and G. Hunter: On the Possibilites of *In Situ* Studies of the Hydration of Aluminate Cements Using Wideline ^{27}Al NMR Spectroscopy 501
Mª.S. Hernández, A. Guerrero, S. Goñi and Mª.P. Lorenzo: Effect of the Temperature on the Leaching Performance of the Cement-Based Immobilization Systems: Sulfate and Chloride Behavior 515
R. Wasserman and A. Bentur: Effect of Lightweight Fly Ash Aggregate Microstructure on the Strength of Concretes 525

C. Carde and R. François: Effect of the Leaching of Calcium Hydroxide from Cement Paste on Mechanical and Physical Properties 539
R. Berliner, C. Ball and P.B. West: Neutron Powder Diffraction Investigation of Model Cement Compounds 551
V. Lilkov, E. Dimitrova and O.E. Petrov: Hydration Process of Cement Containing Fly Ash and Silica Fume: The First 24 Hours 577
K. Hanečka, O. Koronthályová and P. Matiašovský: The Carbonation of Autoclaved Aerated Concrete 589
P.S. Mangat and M.C. Limbachiya: Repair Material Properties for Effective Structural Application 601
M. Frías and M.I. Sánchez de Rojas: Microstructural Alterations in Fly Ash Mortars: Study on Phenomena Affecting Particle and Pore Size 619

DISCUSSIONS
I. Odler 629
R. Yang, C.D. Lawrence and J.H. Sharp 631
J. Bensted 635
A. Saasen 637

NEWS ITEMS 639

1997 Volume 27, Number 5 May

COMMUNICATED PAPERS
X. Fu and D.D.L. Chung: Improving the Bond Strength Between Steel Rebar and Concrete by Ozone Treatment of Rebar and Polymer Addition to Concrete 643
J. Hou and D.D.L. Chung: Cathodic Protection of Steel Reinforced Concrete Facilitated by Using Carbon Fiber Reinforced Mortar or Concrete 649
K. Ikeda: Preparation of Fly Ash Monoliths Consolidated with a Sodium Silicate Binder at Ambient Temperature 657
E.M. Gartner: A Proposed Mechanism for the Growth of C-S-H During the Hydration of Tricalcium Silicate 665
S. Tsivilis and G. Kakali: A Study on the Grindability of Portland Cement Clinker Containing Transition Metal Oxides 673
J. Hou, X. Fu and D.D.L. Chung: Improving Both Bond Strength and Corrosion Resistance of Steel Rebar in Concrete by Water Immersion or Sand Blasting of Rebar 679

REFEREED PAPERS
A. Wang, C. Zhang and N. Zhang: Study of the Influence of the Particle Size Distribution on the Properties of Cement 685
S. Wild, J.M. Khatib and M. O'Farrell: Sulphate Resistance of Mortar, Containing Ground Brick Clay Calcined at Different Temperatures 697
F.A. Shaker, A.S. El-Dieb and M.M. Reda: Durability of Styrene-Butadiene Latex Modified Concrete 711
M.H. Ozkul, A. Baskoca and S. Artirma: Influenced of Prolonged Agitation on Water Movement Related Properties of Water Reducer and Retarder Admixtured Concretes 721
S. Mwaluwinga, T. Ayano and K. Sakata: Influence of Urea in Concrete 733

N.S. Martys and C.F. Ferraris: Capillary Transport in Mortars and Concrete 747
D. Breysse and B. Gérard: Modelling of Permeability in Cement-Based Materials: Part 1-Uncracked Medium 761
S. Martinez-Ramirez, F. Puertas, M.T. Blanco-Varela and G.E. Thompson: Studies on Degradation of Lime Mortars in Atmospheric Simulation Chambers 777
B.B. Sabir, S. Wild and M. Asili: On the Tortuosity of the Fracture Surface in Concrete 785

BOOK REVIEW 797

BOOK REVIEW 799

BOOK REVIEW 801

NEWS ITEMS 803

1997 Volume 27, Number 6 June

COMMUNICATED PAPERS

Z. Heren and H. Ölmez: The Influence of Ethanolamines on the Surface Properties of Portland Cement Pastes 805
S. Chatterji and N. Thaulow: Unambiguous Demonstration of Destructive Crystal Growth Pressure 811
K. Vivekanandam and I. Patnaikuni: Transition Zone in High Performance Concrete During Hydration 817
M.R. Jones, R.K. Dhir and B.J. Magee: Concrete Containing Ternary Blended Binders: Resistance to Chloride Ingress and Carbonation 825
J. Li and P. Tian: Effect of Slag and Silica Fume on Mechanical Properties of High Strength Concrete 833
X. Fu and D.D.L. Chung: Reversible Decrease of the Flexural Dynamic Modulus of Cement Pastes upon Heating 839
X. Fu, E. Ma, D.D.L. Chung and W.A. Anderson: Self-Monitoring in Carbon Fiber Reinforced Mortar by Reactance Measurement 845
J.-Z. Zhang and N.R. Buenfeld: Presence and Possible Implications of a Membrane Potential in Concrete Exposed to Chloride Solution 853
S.H. Okba, A.S. El-Dieb and M.M. Reda: Evaluation of the Corrosion Resistance of Latex Modified Concrete (LMC) 861

REFEREED PAPERS

P.-V. Vlachou and J.-M. Piau: The Influence of the Shear Field on the Microstructural and Chemical Evolution of an Oil Well Cement Slurry and Its Rheometric Impact 869
F.-L. Gao: A New Way of Predicting Cement Strength—Fuzzy Logic 883
D. Fragoulis, E. Chaniotakis and M.G. Stamatakis: Zeolitic Tuffs of Kimolos Island, Aegean Sea, Greece and Their Industrial Potential 889
S. Grzeszczyk and G. Lipowski: Effect of Centent and Particle Size Distribution of High-Calcium Fly Ash on the Rheological Properties of Cement Pastes 907
V. Kasselouri and Ch. Ftikos: The Effect of MoO_3 on the C_3S and C_3A Formation ... 917

M.J. Shannag, R. Brincker and W. Hansen: Pullout Behavior of Steel Fibers from Cement-Based Composites 925
C. Dehghanian and M. Arjemandi: Influence of Slag Blended Cement Concrete on Chloride Diffusion Rate 937
M. Singh and M. Garg: Retarding Action of Various Chemicals on Setting and Hardening Characteristics of Gypsum Plaster at Different pH 947
O. Amiri, A. Aït-Mokhtar and A. Seigneurin: A Complement to the Discussion of A. Xu and S. Chandra about the Paper "Calculation of Chloride Coefficient Diffusion in Concrete from Ionic Migration Measurements" By C. Andrade 951
A. Xu: A Reply to the Discussion of the Discussion of the Paper: "Calculation of Chloride Coefficient Diffusion in Concrete From Ionic Migration Measurements" By O. Amiri et al. 959
P.J. Tumidajski and A.S. Schumacher: Discussion of the Paper "On the Relationship Between the Formation Factor and Propan-2-O1 Diffusivity in Mortars" 963
P.J. Tumidajski: A Reply to a Discussion by B. Batchelor of the Paper "On the Relationship Between the Formation Factor and Propan-2-O1 Diffusivity in Mortars" 965

NEWS ITEMS 967

1997 Volume 27, Number 7 July

COMMUNICATED PAPERS
C. Carde and R. François: Effect of ITZ Leaching on Durability of Cement-Based Materials 971
M.M. Ali, S.K. Agarwal and S.K. Handoo: Duffusion Studies in Formation and Sintering of $CaAl_2O_4$ and $BaAl_2O_4$: A Comparative Evaluation 979
D. Li, X. Fu, X. Wu and M. Tang: Durability Study of Steel Slag Cement 983
Z. Lu and K. Tan: Activity of β-C_2S Under Different Sintering Conditions 989

REFEREED PAPERS
V.T. Ngala and C.L. Page: Effects of Carbonation on Pore Structure and Diffusional Properties of Hydrated Cement Pastes 995
Y. Maltais and J. Marchand: Influence of Curing Temperature on Cement Hydration and Mechanical Strength Development of Fly Ash Mortars 1009
C.C. Yang: Approximate Elastic Moduli of Lightweight Aggregate 1021
J. Qian and H. Luo: Size Effect on Fracture Energy of Concrete Determined by Three-Point Bending 1031
M. Singh, S.N. Upadhayay and P.M. Prasad: Preparation of Iron Rich Cements Using Red Mud 1037
A.K. Suryavanshi and R.N. Swamy: An Elevation of Controlled Permeability Formwork for Long-Term Durability of Structural Concrete Elements 1047
M.A. González and E.F. Irassar: Ettringite Formation in Low C_3A Portland Cement Exposed to Sodium Sulfate Solution 1061
D.S. Klimesch and A. Ray: Autoclaved Cement-Quartz Pastes: The Effects on Chemical and Physical Properties When Using Ground Quartz with Different Surface Areas Part II: Results of Accelerated Carbonation 1073

X. Cheng, J. Yu, F. Liu, Y. Yue and J. Chang: Predictions on the Formation and Bond Performance of Some Ettringites by a Quantum Chemistry Method 1085
Y. Zhang, W. Sun and L. Shang: Mechanical Properties of High Performance Concrete Made With High Calcium High Sulfate Fly Ash 1093
A. Bentur, A. Peled and D. Yankelevsky: Enhanced Bonding of Low Modulus Polymer Fibers-Cement Matrix by Means of Crimped Geometry 1099
M.P. Lutz, P.J.M. Monteiro and R.W. Zimmerman: Inhomogeneous Interfacial Transition Zone Model for the Bulk Modulus of Mortar 1113
M. Ichikawa and M. Kanaya: Effects of Minor Components and Heating Rates on the Fine Textures of Alite in Portland Cement Clinker 1123

NEWS ITEMS 1131

1997 Volume 27, Number 8 August

COMMUNICATED PAPERS

İ.B. Topçu and N. Avcular: Analysis of Rubberized Concrete as a Composite Material 1135
P. Domone and H.-W. Chai: Testing of Binders for High Performance Concrete 1141
Z.-Q. Shi and D.D.L. Chung: Improving the Abrasion Resistance of Mortar by Adding Latex and Carbon Fibers 1149

REFEREED PAPERS

P. Frantzis and R. Baggott: Rheological Characteristics of Retarded Magnesia Phosphate Cement 1155
A. Emanuelson and S. Hansen: Distribution of Iron Among Ferrite Hydrates 1167
R.P. Khatri, V. Sirivivatnanon and J.L. Yang: Role of Permeability in Sulphate Attack 1179
M. Keddam, H. Takenouti, X.R. Nóvoa, C. Andrade and C. Alonso: Impedance Measurements of Cement Paste 1191
A. Diouri, A. Boukhari, J. Aride, F. Puertas and T. Vazquez: Stable Ca_3SiO_5 Solid Solution Containing Manganese and Phosphorous 1203
E. Proverbio and F. Carassiti: Evaluation of Chloride Content in Concrete by X-ray Fluorescence 1213
L'. Bágel' and V. Živica: Relationship Between Pore Structure and Permeability of Hardened Cement Mortars: On the Choice of Effective Pore Structure Parameter 1225
W. Ma and P.W. Brown: Hydrothermal Reactions of Fly Ash with $Ca(OH)_2$ and $CaSo_4 \cdot 2H_2O$ 1237
S. Asavapisit, G. Fowler and C.R. Cheeseman: Solution Chemistry During Cement Hydration in the Presence of Metal Hydroxide Wastes 1249
F. Saucier, F. Claireaux, D. Cusson and M. Pigeon: The Challenge of Numerical Modelling of Strains and Stresses in Concrete Repairs 1261
A.B. Yılmaz, B. Yazıcı and M. Erbil: The Effects of Sulphate Ion on Concrete and Reinforced Concrete 1271
M. Tokyay and M. Özdemir: Specimen Shape and Size Effect on the Compressive Strength of Higher Strength Concrete 1281
J. Bensted: A Discussion of the Paper "The Hydration of Saline Oilwell Cement" By X. Zhou, X. Lin, M. Huo and Y. Zhang 1291

X. Lin, X. Zhou and M. Huo: A Reply to Discussion of the Paper "The Hydration of Saline Oilwell Cement" By John Bensted 1293

NEWS ITEMS 1295

1997 Volume 27, Number 9 September

COMMUNICATED PAPERS

Y. Fu, J. Ding and J.J. Beaudoin: Expansion of Portland Cement Mortar Due to Internal Sulfate Attack 1299

M. Saad Morsy, S.A. Abo El-Enein and G.B. Hanna: Microstructure and Hydration Characteristics of Artificial Pozzolana-Cement Pastes Containing Burnt Kaolinite Clay 1307

X. Fu and D.D.L. Chung: Effect of Curing Age on the Self-Monitoring Behavior of Carbon Fiber Reinforced Mortar 1313

REFEREED PAPERS

H.C. Gran and E.W. Hansen: Effects of Drying and Freeze/Thaw Cycling Probed by ^{1}H-NMR 1319

K.M. Nemati and P.J.M. Monteiro: A New Method to Observe Three-Dimensional Fractures in Concrete Using Liquid Metal Porosimetry Technique 1333

P. Garcés, E.G^{a} Alcocel, S. Chinchón, C.G^{a} Andreu and J. Alcaide: Effect of Curing Temperature in Some Hydration Characteristics of Calcium Aluminate Cement Compared with those of Portland Cement 1343

K.J. Folliard and N.S. Berke: Properties of High-Performance Concrete Containing Shrinkage-Reducing Admixture 1357

J. Payá, J. Monzó, M.V. Borrachero, F. Peris and E. González-Lopez: Mechanical Treatments of Fly Ashes. Part III: Studies on Strength Development of Ground Fly Ashes (GFA) - Cement Mortars 1365

J. Lombardi, P. Massard et A. Perruchot: Mesure Expérimentale de la Cinétique de Formation d'un Gel Silicocalcique, Produit de la Réaction Alcalis-Silice 1379

G.K.D. Pushpalal, T. Kobayashi and M. Hasegawa: High Alumina Cement-Phenol Resin Composite: Water Resistivity and Effect of Post Hydration of Unreacted Cement on Durability 1393

G.D. Guthrie, Jr. and J.W. Carey: A Simple Environmentally Friendly, and Chemically Specific Method for the Identification and Evaluation of the Alkali-Silica Reaction 1407

X. Zhang, Y. Yang and C.K. Ong: Study of Early Hydration of OPC-HAC Blends by Microwave and Calorimetry Technique 1419

N. Belaribi, G. Pons and B. Perrin: Delayed Behaviour of Concrete: Influence of Additions and Aggregate Characteristics in Relation to Moisture Variations 1429

Q. Yu, S. Sugita, X. Feng and J. Mi: On the Preparation of Single Crystals of $11CaO{\cdot}7Al_2O_3{\cdot}CaF_2$ and the Confirmation of Its Crystal Structure 1439

DISCUSSION

S. Chatterji 1451

H. Uchikawa, S. Hanehara and D. Sawaki 1453

NEWS ITEMS 1457

1997 Volume 27, Number 10 October

SPECIAL ISSUE

Papers Presented at the Materials Research Society Symposium on Structure-Property Relationships in Hardened Cement Paste and Composites

Boston, Massachusetts, December 2–6, 1996

EDITORIAL

D.M. Roy: *Special Issue:* Proceedings of MRS Symposium on "Structure-Property Relationships in Hardened Cement Pastes and Composites" 1463

REFEREED PAPERS

S.J. Lokhorst and K. van Breugel: Simulation of the Effect of Geometrical Changes of the Microstructure on the Deformation Behaviour of Hardening Concrete 1465

F. Lange, H. Mortel and V. Rudert: Dense Packing of Cement Pastes and Resulting Consequences on Mortar Properties 1481

E.A.B. Koenders and K. van Breugel: Numerical Modelling of Autogenous Shrinkage of Hardening Cement Paste 1489

W. Jiang, M.R. Silsbee and D.M. Roy: Similarities and Differences of Microstructure and Macro Properties between Portland and Blended Cement 1501

J. Pera, R. Boumaza and J. Ambroise: Development of a Pozzolanic Pigment from Red Mud 1513

P. Lovera, P. Le Bescop, F. Adenot, G. Li, T. Tanaka and E. Owaki: Physico-Chemical Transformations of Sulphated Compounds during Leaching of Highly Sulphated Cemented Wastes 1523

J. Pera, G. Thievenin and M. Chabannet: Design of a Novel System Allowing the Selection of an Adequate Binder for Solidification/Stabilization of Wastes 1533

J.P. Bournazel and M. Moranville: Durability of Concrete: The Crossroad Between Chemistry and Mechanics 1543

C.F. Ferraris, E.J. Garboczi, F.L. Davis and J.R. Clifton: The Effect of Stress Relaxation, Self-Dessication, and Water Absorption on the Alkali-Silica Reaction in Low Water/Cement Ratio Mortars 1553

J. LaRosa Thompson, M.R. Sisbee, P.J. Gill and B.E. Scheetz: Characterization of Silicate Sealers on Concrete 1561

R. Tixier, R. Devaguptapu and B. Mobasher: Effect of Copper Slag on the Hydration and Mechanical Properties of Cementitious Mixtures 1569

P. Faucon, J.M. Delayo, J. Virlet, J.F. Jacquinot and F. Adenot: Study of the Structural Properties of the C–S–H(l) by Molecular Dynamics Simulation 1581

M. Masi, D. Colella, G. Radailii and L. Bertolini: Simulation of Chloride Penetration in Cement-Based Materials 1591

C.M. Neubauer, H.M. Jennings and E.J. Garboczi: Mapping Drying Shrinkage Deformations in Cement-Based Materials 1603

REPORT

S. Chandra: Report of the 10th International Congress on the Chemistry of Cement .. 1613

BOOK REVIEWS 1619

NEW ITEMS 1621

1997 Volume 27, Number 11 November

G.M. Idorn: Comments on the Contents of Cement and Concrete Research, Vol. 27, No. 6, July 1997 1625

COMMUNICATED PAPERS

I. Casanova, A. Aguado, and L. Agulló: Aggregate Expansivity due to Sulfide Oxidation - II. Physico-Chemical Modeling of Sulfate Attack 1627

R.K. Dhir, M.A.K. El-Mohr, and T.D. Dyer: Developing Chloride Resisting Concrete Using PFA 1633

REFEREED PAPERS

J.O. Odigure: Preparation of Cement Raw Mix Containing Metallic Particles 1641

S. Börjesson, A. Emrén, and C. Ekberg: A Thermodynamic Model for the Calcium Silicate Hydrate Gel, Modelled as a Non-Ideal Binary Solid Solution 1649

F.M. Kilinçkale: Influence of Na_2SO_4 Solutions on the Capillary Absorption and Shrinkage of Mortars Made with Cement Containing Silica Fume 1659

B. Persson: Long-Term Effect of Silica Fume on the Principal Properties of Low-Temperature-Cured Ceramics 1667

C.G. Rowbottom, W.B. Gilboy, and D.J. Hannant: Determination of Cement Content of Cement Blends Using Gamma-Ray Spectroscopy 1681

X. Ji, S.Y.N. Chan, and N. Feng: Fractal Model for Simulating the Space-Filling Process of Cement Hydrates and Fractal Dimensions of Pore Structure of Cement-Based Materials 1691

W. Zhu and P.J.M. Bartos: Assessment of Interfacial Microstructure and Bond Properties in Aged GRC Using a Novel Microindentation Method 1701

M. Tüfekçi, A. Demirbaş, and H. Genç: Evaluation of Steel Furnace Slags as Cement Additives 1713

J.-K. Kim, C.-S. Lee, C.-K. Park, and S.-H. Eo: The Fracture Characteristics of Crushed Limestone Sand Concrete 1719

V. Pavlík and S. Unčik: The Rate of Corrosion of Hardened Cement Pastes and Mortars with Additive of Silica Fume in Acids 1731

A.A. Sagüés, E.I. Moreno, and C. Andrade: Evolution of pH During In-Situ Leaching in Small Concrete Cavities 1747

Y. Shao, C.J. Lynsdale, C.D. Lawrence, and J.H. Sharp: Deterioration of Heat-Cured Mortars Due to the Combined Effect of Delayed Ettringite Formation and Freeze/Thaw Cycles 1761

DISCUSSIONS

J. Bensted and J. Munn 1773

J.J. Beaudoin 1777

BOOK REVIEWS 1779

NEWS ITEMS 1781

1997 Volume 27, Number 12 December

COMMUNICATED PAPERS

M.U.K. Afridi, Y. Ohama, K. Demura, and M.Z. Iqbal: Hydrogarnet-type Cubic Crystals in Polymer-Modified Mortars 1787
G. Qian, A. Li, G. Xu, and H. Li: Hydrothermal Products of the C_3MS_2-$C_{12}A_7$-MgO System 1791
X. Fu and D.D.L. Chung: Effects of the Silica Fume, Latex, Methylcellulose, and Carbon Fibers on the Thermal Conductivity and Specific Heat of Cement Paste 1799
X. Fu and D.D.L. Chung: Improving the Bond Strength Between Steel Rebar and Concrete by Increasing the Water/Cement Ratio 1805
X. Fu and D.D.L. Chung: Effect of Corrosion on the Bond Between Concrete and Steel Rebar 1811
İ.B. Topçu: Physical and Mechanical Properties of Concretes Produced with Waste Concrete 1817
I. Rouseková, A. Bajza, and V. Zivica: Silica Fume-Basic Blast Furnace Slag Systems Activated by an Alkali Silica Fume Activator 1825

REFEREED PAPERS

M. Zhu and D.D.L. Chung: Improving Brick-to-Mortar Bond Strength by the Addition of Carbon Fibers to the Mortar 1829
Y. Xu: The Influence of Sulphates on Chloride Binding and Pore Solution Chemistry ... 1841
A.M. Alshamsi: Microsilica and Ground Granulated Blast Furnace Slag Effects on Hydration Temperature 1851
N. Bouzoubaâ, M.H. Zhang, A. Bilodeau, and V.M. Malhotra: The Effect of Grinding on the Physical Properties of Fly Ashes and a Portland Cement Clinker ... 1861
M.L. Allan: Rheology of Latex-Modified Grouts 1875
Y. Zhang, W. Sun, L. Shang, and G. Pan: The Effect of High Content of Fly Ash on the Properties of Glass Fiber Reinforced Cemetitious Composites 1885
İ.B. Topçu and N. Avcular: Collision Behaviours of Rubberized Concrete 1893
P.J.M. Monteiro, K. Wang, G. Sposito, M.C. dos Santos, and W.P. de Andrade: Influence of Mineral Admixtures on the Alkali-Aggregate Reaction 1899
F.M. Kilinçkale: The Effect of $MgSO_4$ and HCl Solutions on the Strength and Durability of Pozzolan Cement Mortars 1911
K. Sakr, M.S. Sayed, and N. Hafez: Comparison Studies Between Cement and Cement-Kaolinite Properties for Incorporation of Low-Level Radioactive Wastes 1919

NEWS ITEMS 1927

INDEX TO VOLUME 27 1931
Author Index 1942
Key Word Index 1945

Author Index

Acker, P., 245
Adenot, F., 1523, 1581
Afridi, M.U.K., 1787
Agarwal, S.K., 979
Aguado, A., 1627
Agulló, L., 1627
Aït-Mokhtar, A., 951
Aköz, F., 205
Alcaide, J., 1343
Alcocel, E.G., 1343
Ali, M.M., 979
Allan, M.L., 1875
Al-Negheimish, A.I., 267
Alonso, C., 1191
Alshamsi, A.M., 1851
Al-Sugair, F.H., 267
Al-Zaid, R.Z., 267
Ambroise, J., 1, 1513
Amiri, O., 951
Anderson, W.A., 845
Andrade, C., 1191, 1747
Andreu, C.G., 1343
Aride, J., 1203
Arjemandi, M., 937
Artirma, S., 721
Asavapisit, S., 1249
Asili, M., 785
Avcular, N., 1135, 1893
Ayano, T., 733

Bágel', L.', 1225
Baggott, R., 1155
Bajza, A., 1825
Ball, C., 551
Ballatore, E., 453
Bartos, P.J.M., 1701
Bascoul, A., 345
Baskoca, A., 721
Batchelor, B., 963
Beaudoin, J.J., 23, 1299, 1777
Belaribi, N., 1429
Bensted, J., 635, 1291, 1773
Bentur, A., 525, 1099
Berke, N.S., 1357
Berliner, R., 551
Bertolini, L., 1591
Bhattacharjee, B., 93
Bilodeau, A., 1861
Blanco-Varela, M.T., 777
Bocca, P., 453
Börjesson, S., 1649
Borrachero, M.V., 1365
Boukhari, A., 1203
Boumaza, R., 1513
Bournazel, J.P., 1543
Bouzoubaâ, N., 1861
Breysse, D., 761
Brincker, R., 925
Brown, P.W., 1237
Buenfeld, N.R., 853

Carassiti, F., 1213
Carde, C., 539, 971
Carey, J.W., 1407
Casanova, I., 1627
Çeçen, C., 165
Černý, R., 415
Chabannet, M., 1, 63, 1533
Chai, H.-W., 1141
Chan, S.Y.N., 279, 1691
Chandra, S., 1613
Chang, J., 1085
Chaniotakis, E., 889
Chatterji, S., 155, 811, 1451
Cheeseman, C.R., 1249
Chen, Z., 493
Cheng, X., 1085
Chinchón, S., 1343
Chung, D.D.L., 437, 643, 649, 679, 839, 845, 1149, 1313, 1799, 1805, 1811, 1829
Claireaux, F., 1261
Clifton, J.R., 1553
Colella, D., 1591
Coleman, N.J., 147
Coutaz, L., 1
Cusson, D., 1261

Davis, F.L., 1553
de Andrade, W.P., 1899
Dehghanian, C., 937
Delaye, J.M., 1581
Demirbaş, A., 1713
Demura, K., 1787
Deng, M., 321
Devaguptapu, R., 1569
Dhir, R.K., 825, 1633
Díez, J.M., 337, 479
Dimitrova, E., 577
Ding, J., 1299
Diouri, A., 1203
Domone, P., 1141
dos Santos, M.C., 1899
Drábik, M., 127
Drchalová, J., 415
Duszak, S., 51
Dyer, T.D., 1633

Ehrlacher, A., 245
Ekberg, C., 1649
El-Dieb, A.S., 711, 861
El-Enein, S.A.A., 1307
El-Mohr, M.A.K., 1633
Emanuelson, A., 1167
Emrén, A., 1649
Eo, S.-H., 1719
Erbil, M., 1271
Escadeillas, G., 345

Faucon, P., 1581
Feng, N., 1691
Feng, N.Q., 279
Feng, X., 407, 1439
Fernández-Jiménez, A., 359
Ferraris, C.F., 747, 1553
Folliard, K.J., 1357
Fowler, G., 1249
Fragoulis, D., 889
François, R., 539, 971
Frantzis, P., 1155
Frías, M., 619
Ftikos, Ch., 917
Fu, X., 643, 679, 839, 845, 983, 1313, 1799, 1805, 1811
Fu, Y., 1299

Gáliková, L., 127
Garboczi, E.J., 495, 1553, 1603
Garcés, P., 1343
Gao, F.-L., 883
Garg, M., 947
Gartner, E.M., 665
Gaze, M.E., 259
Genç, H., 1713
Gérard, B., 761
Gilboy, W.B., 1681
Gill, P.M., 1561

Glasser, F.P., 215
Goñi, S., 515
González, M.A., 1061
González-López, E., 1365
Gran, H.C., 1319
Grzeszczyk, S., 907
Gu, P., 23
Guerrero, A., 515
Güleç, A., 227
Guthrie, G.D. Jr., 1407

Hafez, N., 1919
Handoo, S.K., 979
Hanečka, K., 589
Hanehara, S., 37, 1453
Hanna, G.B., 1307
Hannant, D.J., 1681
Hansen, E.W., 1319
Hansen, S., 1167
Hansen, W., 925
Hasegawa, M., 1393
He, Z.S., 279
Heren, Z., 805
Hernández, M.S., 515
Hill, R.L., 193
Hix, G.B., 127
Hošková, Š., 415
Hou, J., 649, 679
Hower, J.C., 193
Hua, C., 245
Huang, W.-H., 395
Hunter, G., 501
Huo, M., 1293

Ichikawa, M., 1123
Idorn, G.M., 1625
Ikeda, K., 657
Iqbal, M.Z., 1787
Irassar, E.F., 1061

Jacquinot, J.F., 1581
Jansen, D.C., 381
Jennings, H.M., 1603
Ji, X., 1691
Jiang, W., 1501
Jin, Q., 107
Jones, M.R., 825

Kakali, G., 673
Kanaya, M., 1123
Kapičková, O., 415
Karr, A.F., 381
Kasselouri, V., 917
Kawamura, M., 29
Keddam, M., 1191
Khatib, J.M., 137, 697
Khatri, R.P., 1179
Kilinçkale, F.M., 1659, 1911
Kim, J.-H., 171
Kim, J.-K., 1719
Kindness, A., 215
Klimesch, D.S., 1073
Kobayashi, T., 1393
Koenders, E.A.B., 1489
Komatsu, S., 29
Koral, S., 205
Koronthályová, O., 589
Kouznetsova, T.V., 303, 501
Kudryavtsev, A.B., 303, 501
Kumar, R., 93
Kurdowski, W., 51

Lan, X., 321
Lange, F., 1481
LaRosa Thompson, J., 1561
Laskar, Md.A.I., 93
Lawrence, C.D., 631, 1761
Le Bescop, P., 7, 1523
Lee, C.-S., 1719
Leung, C.K.Y., 427, 463
Li, A., 315, 1791
Li, D., 983
Li, G., 7, 1523
Li, H., 315, 1791
Li, J., 833
Lilkov, V., 577
Limbachiya, M.C., 601
Lin, X., 1293
Linert, W., 501
Lipowski, G., 907
Liu, F., 1085
Liu, W., 107
Lokhorst, S.J., 1465
Lombardi, J., 1379
Lorenzo, M.P., 515
Lovera, P., 1523
Lu, X., 293
Lu, Z., 989
Luo, H., 1031
Lumley, J.S., 235
Lutz, M.P., 1113
Lynsdale, C.J., 1761

Ma, E., 845
Ma, W., 1237
Macías, A., 215, 337, 479
Madrid, J., 337, 479
Magee, B.J., 825
Malhotra, V.M., 1861
Maltais, Y., 1009
Mangat, P.S., 601
Marchand, J., 1009
Martínez-Ramírez, S., 777
Martys, N.S., 747
Masi, M., 1591
Massard, P., 1379
Matiašovský, P., 589
Maximilien, S., 63
Michalko, O., 415
Mi, J., 1439
Mobasher, B., 1569
Monteiro, P.J.M., 1113, 1333, 1899
Monzó, J., 1365
Moranville, M., 1543
Moranville-Regourd, M., 7
Moreno, E.I., 1747
Morsy, M.S., 1307
Mörtel, H., 1481
Mouret, M., 345
Munn, J., 1773
Mwaluwinga, S., 733
Myers, R.E., 23

Nemati, K.M., 1333
Neubauer, C.M., 1603
Ngala, V.T., 995
Nocuń-Wczelik, W., 83
Nóvoa, X.R., 1191

Odigure, J.O., 1641
Odler, I., 473, 629
O'Farrell, M., 697
Ohama, Y., 1787
Okba, S.H., 861
Ölmez, H., 805
Ong, C.K., 1419
Owaki, E., 1523
Özdemir, M., 1281
Ozkul, M.H., 721
Özturan, T., 165

Page, C.L., 147, 995
Pan, G., 1885

Park, C.-K., 1719
Patnaikuni, I., 817
Pavlík, V., 1731
Payá, J., 1365
Pearce, A.G., 127
Pei, T., 833
Peled, A., 1099
Pera, J., 1, 63, 1513, 1533
Peris, E., 1365
Perrin, B., 1429
Perruchot, A., 1379
Persson, B., 1667
Petrov, O.E., 577
Pheeraphan, T., 427, 463
Piau, J.-M., 869
Pigeon, M., 1261
Pons, G., 1429
Prasad, P.M., 1037
Proverbio, E., 1213
Puertas, F., 359, 777, 1203
Pushpalal, G.K.D., 1393

Qian, G., 315, 1791
Qian, J., 1031

Radaelli, G., 1591
Rathbone, R.F., 193
Ray, A., 1073
Reda, M.M., 711, 861
Robertson, R.E., 171
Rouseková, I., 1825
Rowbottom, C.G., 1681
Roy, D.M., 1463, 1501
Rudert, V., 1481

Saasen, A., 637
Sabir, B.B., 785
Sagüés, A.A., 1747
Sakata, K., 733
Sakr, K., 1919
Samet, B., 369
Sánchez de Rojas, M.I., 619
Sarkar, S.L., 193, 369
Saucier, F., 1261
Sawaki, D., 37, 1453
Sayed, M.S., 1919
Scheetz, B.E., 75, 1561
Sebök, T., 185
Seigneurin, A., 951
Semerák, P., 415
Shah, S.P., 381
Shaker, F.A., 711
Shang, L., 1093, 1885
Shannag, M.J., 925
Shao, Y., 1761
Sharp, J.H., 631, 1761
Shi, Z.-Q., 1149
Siemer, D.D., 75
Silsbee, M.R., 1501, 1561
Singh, M., 947, 1037
Sirivivatnanon, V., 1179
Slade, R.C.T., 127
Sposito, G., 1899
Stamatakis, M.G., 889
Stráněl, O., 185
Sugita, S., 1439
Sun, W., 1093, 1885
Suryavanshi, A.K., 1047
Swamy, R.N., 1047

Takenouti, H., 1191
Tan, K., 989
Tanaka, Y., 1523
Tang, M., 321, 329, 983
Thaulow, N., 811
Thevenin, G., 1533
Thompson, G.E., 777
Tixier, R., 1569
Tokyay, M., 1281
Toman, J., 415
Tong, L., 107, 321, 329
Topçu, İ.B., 15, 177, 1135, 1817, 1893
Trybalska, B., 51
Tsang, M.K.C., 279
Tsivilis, S., 673
Tüfekçi, M., 1713
Tulun, T., 227
Tumidajski, P.J., 965
Türker, F., 205

Uchikawa, H., 37, 1453
Unčík, S., 1731
Upadhayay, S.N., 1037

van Breugel, K., 1465, 1489
Vazquez, T., 1203
Virlet, J., 1581
Vivekanandam, K., 817
Vlachou, P.-V., 869
Vodák, F., 415

Wang, A., 685
Wang, D., 493
Wang, K., 381, 1899
Wasserman, R., 525
West, P.B., 551
Wetherhold, R.C., 437
Wild, S., 137, 697, 785
Wu, K., 115
Wu, X., 983

Xi, Y., 75
Xiuji, F., 1439
Xu, A., 959
Xu, G., 315, 1791
Xu, Y., 1841

Yang, C.C., 1021
Yang, J.L., 1179
Yang, N., 407
Yang, R., 631
Yang, Y., 1419
Yankelevsky, D., 1099
Yazici, B., 1271
Yilmaz, A.B., 1271
Young, K.E., 127
Yu, J., 1085
Yu, Q., 1439
Yue, Y., 1085
Yüzer, N., 205

Zhang, B., 115
Zhang, C., 685
Zhang, J.-Z., 853
Zhang, M.H., 1861
Zhang, N., 685
Zhang, X., 1419
Zhang, Y., 1093, 1885
Zhou, X., 1293
Zhu, M., 437, 1829
Zhu, W., 1701
Zimmerman, R.W., 1113
Živica, V., 1225, 1825

Key Word Index

Abrasion Resistance, 1149
Acids, 1681, 1731
Activators, 51
Activity, 989
Admixtures, 83, 805, 1357
Adsorption, 193
Aerated Concrete, 589
AFm, 1167
Ageing, 1701
Aggregate, 345
Aggregate Type Concrete, 165
Agitation, 721
Air Entrainer, 193
Airport Pavement, 321
Air Suppression, 235
Air Voids, 171
Alite, 1123
Alkali Activation, 359, 1825
Alkali-Aggregate Reaction, 1901
Alkali-Carbonate Reaction, 321, 329
Alkali-Silica Reaction, 1379, 1407
Alteration, 619
Aluminate, 1393
Aluminate Cements, 501, 1343
^{27}Al MNR, 501
Ancient Mortars, 227
Al–27 NMR, 303
Apatite, 407
ASR, 1553
ASR Cracking, 107
Atmosphere Simulation, 777
Atomic Force Microscope, 1451
Autoclaving, 75, 589, 1073
Autogenous Shrinkage, 245, 1489

$BaAl_2O_4$, 979
Belite, 51
Bending, 115, 1031
Bentonite, 395
Binders, 1141, 1179
Bleeding, 721
Blended Cements, 487, 995, 1501
Bond, 1811
Bonding, 1099
Bond Performance, 1085
Bond Strength, 643, 679, 1805, 1829
Brick, 1829
By-Products, 1641

C_3A, 369, 917
$CaAl_2O_4$, 979
Cadmium, 337
Calcined Brick Clay, 697
Calcining, 1513
Calcium Aluminate Hydrates, 1307
Calcium Aluminate Sulfate, 7
Calcium Silicate Hydrates, 83, 1791
Calcium Sulfate, 369
Calcium Sulfoaluminate, 303
$11CaO{\cdot}7Al_2O_3{\cdot}CaF_2$, 1439
$Ca(OH)_2$, 539, 1237, 1379
Capillary Absorption, 1659
Capillary Depression, 245
Capillary Transport, 747
Carbon, 193
Carbonation, 589, 995, 1073
Carbon Fiber Reinforcement, 845
Carbon Fibers, 437, 649, 1149, 1313, 1799, 1829
Ca_3SiO_5, 1203
Cathodic Protection, 649
Cd, 479
Cement, 185, 259, 983, 1249, 1393, 1453, 1919
Cement Additives, 1713
Cement-Blends, 825
Cement Compounds, 551
Cement Hydrates, 1691
Cement-Kaolinite, 1919
Cement Particles, 37
Cement Paste, 1191, 1591
Cement-Quartz Pastes, 1073
Cement Stabilization, 337, 479
Cement Strength, 883
Cemented Wastes, 1523
Characterization, 479, 1561
Chemically Bonded Ceramics, 407
Chemicals, 947
Chemistry, 1543
Chloride, 515, 1213
Chloride Binding, 1633, 1841
Chloride Diffusion, 937
Chloride Diffusion Cells, 853
Chloride Penetration, 1591
Chromium, 215
Clinker Raw Mix, 1641
Clinkers, 63, 1613, 1861
CO_2, 215
Composites, 925, 1135, 1393
Compressive Strength, 487
Concentration, 205, 235
Concrete, 1, 1561
Concrete Cavities, 1747
Conductivity, 63
Consolidation, 657
Copper Slag, 1569
Corrosion, 1681, 1731, 1811
Corrosion Resistance, 679, 861
Cracking, 495, 811
Cracks, 381
Creep, 1429
Crushesd Limestone Sand Concrete, 1719
Crystal Growth, 811
Crystal Size, 917
Crystallography, 369
C_2S, 369
C_3S, 917
β-C_2S, 989
C-S-H Gel, 1649
C-S-H Growth, 665
C-S-H(I), 1581
C_3S Hydration, 665
Curing Age, 1313
Curing Temperature, 1009, 1343
Cycling, 1319

Degradation, 777
Delayed Deformation, 1429
Delayed Ettringite, 1761
Dense Matrix, 925
Diffusion, 979, 995, 1633
Diffusivity, 293
Digital Image Mapping, 1603
Displacement, 495

Drying, 1191, 1319
Drying Shrinkage, 1603
Durability, 427, 711, 721, 971, 983, 1047, 1543, 1911
Dynamic Loading, 453

Early Hydration, 1419
Early Stage, 577
Edges, 665
Elastic Moduli, 1021
Electrical Resistance, 1313
Electric-Arc Furnace Dust, 267
Electrode, 1747
Ethanolamines, 805
Ettringite, 1061, 1085
Expansion, 495, 811, 1061, 1299
Expansivity, 1627

Fatigue Strength, 115
Fe, 1167
Ferrite Hydrates, 1167
Fiber, 395
Fineness, 185
Flexural Dynamic Modulus, 833
Flint, 235
Flow, 733, 1141
Flux Evaporation, 1439
Fluxural Strength, 165
Fly Ash, 193, 395, 577, 657, 825, 907, 1009, 1093, 1237, 1365, 1861, 1875, 1885
Fly Ash Aggregate, 525
Formwork, 1047
Fractal, 1691
Fracture Energy, 1031
Fractures, 1333
Fracture Surface, 785
Freeze-Thaw, 1319
Freezing, 427, 1761
Fuzzy Logic, 883

Gel Pores, 747
Geometrical Changes, 1465
Glass Fiber Reinforcement, 1885
Grain Size, 1213
GRC, 1701
Grindability, 673
Grinding, 1861
Grouts, 395, 1875
Gypsum, 259, 1237

Hardening, 1489
HC1, 1911
Heat of Hydration, 733, 1851
Heating, 833, 1761
Heating Rate, 1123
High Content, 1885
High Performance, 817
High Performance Concrete, 1093, 1141, 1357
High Strength, 1481
High Strength Concrete, 833, 1281
High Sulphate, 1523
High Temperature, 1299
Humidity, 937, 1489
Hydration, 147, 359, 369, 501, 577, 817, 1009, 1249, 1393, 1569
Hydration Kinetics, 303
Hydraulic, 1825
Hydrogarnet, 1167, 1787
Hydrothermal, 83, 1237, 1791
Hydrothermal Cement 317, 315

Identification, 1407
Immobilization, 215
Impact Resistance, 1893
Impedance Measurements, 1191
Improvement, 1805
Incinerator Bottom Ash, 1
Indentation, 1701
Inhomogeneity, 1113
In Situ, 501
Interface, 971
Interfacial Transition Zone, 1113
Interfacial Zone, 437
Internal Sulfate Attack, 1299
Ions, 293

Kinetics, 359, 1379

Latex, 711, 1149, 1799, 1875
Latex Modified Concrete, 861
Leaching, 515, 539, 971, 1747
Li Compounds, 235
Lightweight Aggregate, 1021
Lightweight Concrete, 525
Ligninsulfonates, 185
Lime, 259
Lime Mortars, 777
Liquid Metal Porosimetry, 1333
Low C_3A, 1061
Low Modulus Fibers, 1099
Low Porosity, 1481
Low-Temperature Ceramics, 1667
Low-Temperature Synthesis, 51

Magnesium, 315
Magnesium Sulfate, 205
MDF Processing, 127
Mechanical Properties, 453, 539, 1817
Mechanical Treatment, 1365
Mechanism, 665
Membrane Potential, 853
Mercury Intrusion Porosimetry, 93
Metakaolin, 137, 147
Meta-Kaolin, 1307
Metal Hydroxides, 1249
Metallic Particles, 1641
Mg Phosphate Cement, 1155
Mg Silicate, 315
$MgSO_4$, 1911
Microstructure, 329, 619, 711, 869, 1465, 1501, 1701
Microwave, 1419
Microwave Curing, 427, 463
Mineral Admixtures, 1901
Minor Components, 1123
Mn, 1203
Modeling, 761, 1543
Models, 245, 883, 1113
Modulus, 1135
Moisture, 1429
Molecular Dynamics, 1581
Molecular Weight, 185
Monoliths, 657
MoO_3, 917
Mortar Matrix, 437
Mortars, 259, 697, 845, 1149, 1225, 1681, 1731, 1829

NaCl, 29
NaOH Treatment, 1
Na_2SO_4, 1659
Nernst-Einstein Equation, 293
Neutron Diffraction, 551
Nickel Parriculates, 23
NMR, 407, 1319
Novel System, 1533
Nuclear Safety, 415
Numerical Modeling, 1261

Opal, 1379
Opening Dimension, 381
Optimization, 463
Organic Admixtures, 1451
Oxidation, 1627
Oxidation State, 215
Ozone, 643

P, 1203
^{31}P, 407
Packing Density, 685, 1481
Parameters, 93
Particle Size, 619, 907
Particle Size Distribution, 685
Paste Rheology, 907
Pastes, 23, 37, 137, 147, 1681, 1731
Permeability, 293, 381, 761, 1179, 1225, 1633
Petrography, 227, 321, 329
pH, 947, 1271, 1747
Phenol Resin, 1393
Physical Properties, 1817, 1861
Physico-Chemical Studies, 227
Physics, 1543
Pigment, 1513
Plaster, 947
Polymer, 643, 1099
Polymer-Modified Mortars, 171, 1787
Pore Fluid, 337
Pore Size, 619
Pore Solution, 29, 147, 1841
Pore Structure, 995, 1225
Porosity, 539
Portland-Alumina Cement, 1419
Portland Cement, 1343
Portlandite, 137
Power, 463
Pozzolan, 1307, 1365, 1513
Pozzolan Effect, 1911
Pozzolana, 279, 889
Prediction, 487, 883
Premeability Control, 1047
Pressure, 811
Pre-Wetting, 171
Production, 1037
Prolonging, 721
Properties, 1501
Proton, 1319
Pullout, 925

Quantum Chemistry, 1085

Radioactive Waste, 1919
Railroad Ties, 107
Rapid Sintering, 989
Reactance, 845
Reactivity, 63
Red Mud, 1037, 1513
Reduced Shrinkage, 1357
Reduction, 1851
Reinforcement, 643, 649, 1271, 1811
Repair, 1261
Repair Material Polymers, 601
Resistivity, 1811
Retardation, 267, 947, 1155
Reversibility, 833
Rheology, 1155, 1875
Rheometry, 869
Rubber, 1135
Rubberized Concrete, 1893

Sand Blasting, 679
Scrap, 1135
Sealers, 1561
Self-Desiccation, 1553
Sem, 1333
Semi-Lightweight Concrete, 15
Service Life, 747
Shale Ash, 279
Shape, 1281
Shear, 437
Shear Field, 869
Shrinkage, 601, 1429, 1659
^{29}Si, 407
Silica, 1787
Silica Fume, 75, 395, 577, 825, 833, 1659, 1667, 1799, 1825, 1851
Silicates, 1561
Simulation, 1591
Single Crystals, 1439
Sintering, 979
Size Effect, 1031, 1281
Slag, 359, 825, 833, 1791, 1825, 1841, 1851, 1875
Slag Blending, 937
Slage Cement, 75
Sodium Silicate, 657
Solidification/Stabilization, 1533
Solid Solution, 1203, 1649
Sorption, 747
Space-Filling, 1691
Sphere, 495
Splitting, 381
Staining, 1407
Steel Fibers, 925
Steel Slags, 983, 1713
Steric Repulsion, 37
Steric Repulsive Force, 1453
Stiffness, 115
Strains, 1603, 1261
Strength, 75, 137, 279, 463, 525, 733, 817, 983, 1009, 1271, 1365
Strength Decrease, 345
Strengthening, 23
Stress Relaxation, 1553
Stresses, 495, 1261
Structure, 1581
Styrene-Butadiene, 711
Sulfate, 29, 515, 1061, 1093
Sulfate attack, 1627
Sulfate Resistance, 205
Sulfides, 1627
Sulfobelitic Clinkers, 127
Sulfoferrite, 1037
Sulphate Attack, 1179
Sulphate Resistance, 697
Sulphates, 1271, 1841
Superplasticizer, 279
Surface Area, 1713
Surface Properties, 805
Synthesis, 7

Temperature, 515
Testing, 1141
Texture, 1123
Thaumasite, 259
Thawing, 427, 1761

Theory, 1021
Thermodynamic Model, 1649
Thermophysical Properties, 415
Tortuosity, 785
Toughness, 785
Transformation, 1523
Transition Metals, 673
Transition Zone, 817, 971
Transport Properties, 761
Tuffs, 889

U Phase, 7
Urea, 733

Variability, 453
Volcanic Slags, 15

Wastes, 337, 479, 515, 1249, 1817
Water Cement, 1805
Water Content, 345
Water Demand, 889

Xonotlite, 315
X-Ray Diffraction, 673
X-Ray Fluorescence, 1213
XRD, 1569

Zeolites, 889